television bulletin

ONTARIO DEPARTMENT OF EDUCATION

PROGRAM NOTES FOR BIOLOGY - GRADE 13

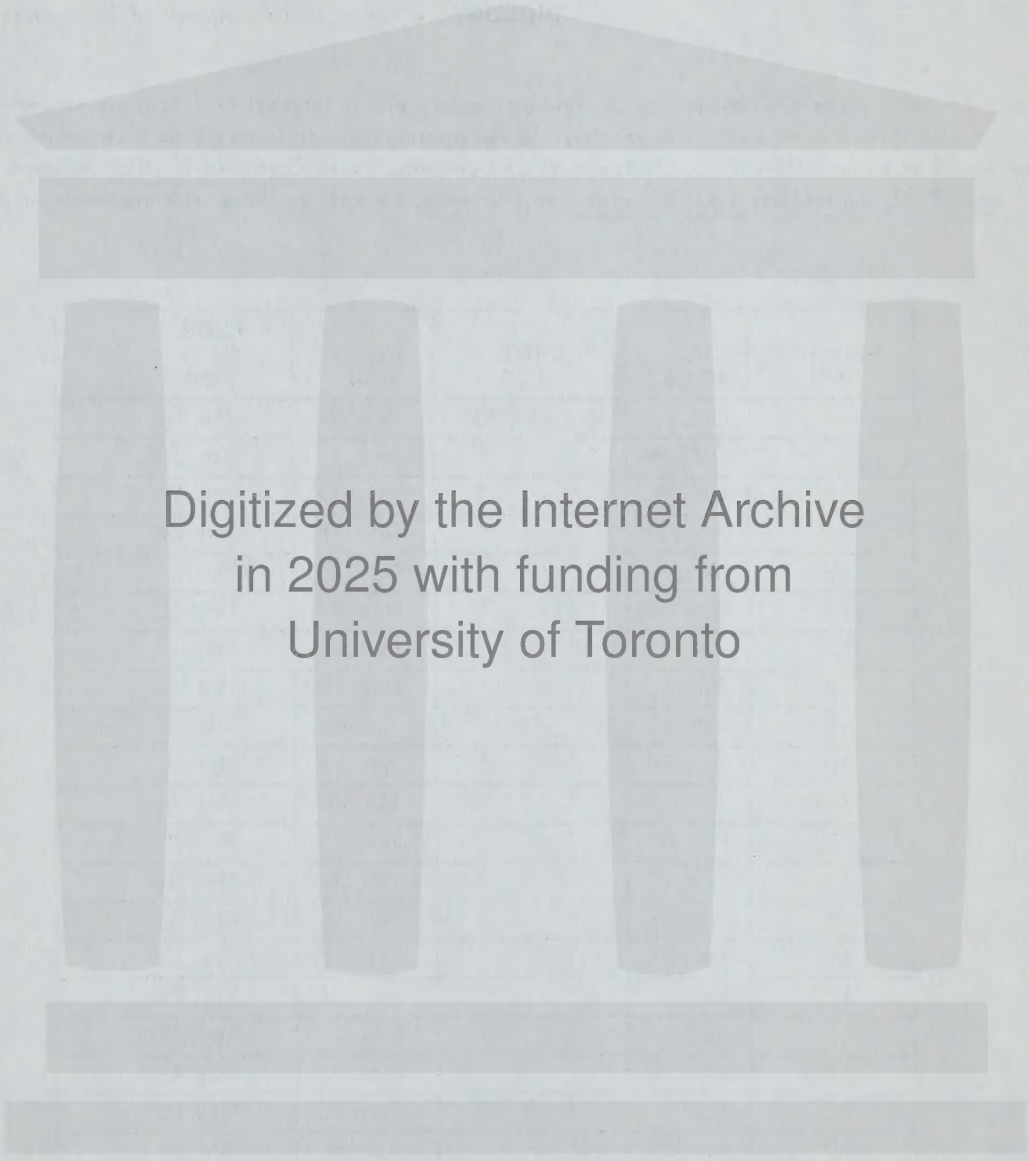
OHoC
371.3358
E244

BIOLOGY- a series of 26 programs of 30 minutes each

Prepared for the grade 13 Biology course, these programs are of interest to secondary science teachers and students, as well as to teachers in the intermediate division of the elementary schools. They would be especially valuable to teachers and students using Curricula 1: 1(e), Science, RP-50, Biology, RP-21, Agriculture 1-21, Enviornmental Science, as well as those who are studying Forestry.

PROGRAM NO.	CBC 10:00	CBOT 10:00	CHCH 9:30	CJOH CJSS 9:30
1	Oct. 21	Same as CBC	Oct. 28	Jan. 6
2	Oct. 28	" "	Nov. 4	Jan. 13
3	Nov. 4	" "	Nov. 11	Jan. 20
4	Nov. 11	" "	Nov. 18	Jan. 27
5	Nov. 25	" "	Nov. 25	Feb. 3
6	Dec. 9	" "	Dec. 2	Feb. 10
7	Dec. 16	" "	Dec. 9	Feb. 17
8	Jan. 6	" "	Dec. 16	Feb. 24
9	Jan. 13	" "	Jan. 6	Mar. 2
10	Jan. 20	" "	Jan. 13	Mar. 9
11	Jan. 27	" "	Jan. 20	Mar. 16
12	Feb. 3	" "	Jan. 27	Mar. 23
13	Feb. 10	" "	Feb. 3	Mar. 30
14	Feb. 17	" "	Feb. 10	Apr. 6
15	Feb. 24	" "	Feb. 17	Apr. 13
16	Mar. 2	" "	Feb. 24	Apr. 20
17	Mar. 9	" "	Mar. 2	Apr. 27
18	Mar. 30	" "	Mar. 9	May 4
19	Apr. 6	" "	Mar. 30	May 11
20	Apr. 13	" "	Apr. 6	May 18
21	Apr. 20	" "	Apr. 13	May 25
22	Apr. 27	" "	Apr. 20	June 1
23	May 4	" "	Apr. 27	
24	May 11	" "	May 4	
25	May 18	" "	May 11	
26	May 25	" "	May 18	

For further information: phone 365-6300 or write:
Educational Television Branch, Ont. Dept. of Education • 1670 Bayview Ave., Toronto, Ont.



Digitized by the Internet Archive
in 2025 with funding from
University of Toronto

https://archive.org/details/televisionbullet00onta_2

The general purpose of the series is to stimulate interest in biology, to help clarify important principles, and to present a picture of contemporary biology. Each program is complete in itself and can be viewed with advantage at any time during the year. The entire series could be viewed profitably by students in grades 11 and 12, while students in 9 and 10 should be directed to view programs which illustrate biological principles of fundamental importance. This bulletin - which gives the purpose of each program - should be used in conjunction with the ETV Teachers Guide sent to secondary school principals.

Please note that some titles of programs have been changed from those shown in the Teachers Guide. These changes occurred after the Guide had gone to press.

1. What is Biology? This program is primarily a general introduction to the series.

2. What Does Chemistry Have to Do With Biology? This program illustrates the theme that chemistry is no alien intruder in the field of biology but is absolutely essential to the solution of many biological problems.

3. Looking at Cells - Part 1: Is an introduction to the cell.

4. Looking at Cells - Part 11: Explains the fine structure of the cell as revealed by electron microscopy.

5. The Membrane of the Cell: Considers the membrane system of the cell, especially the plasma membrane, and how materials pass through this membrane into and out of the cell.

6. Respiration: Presents an overview of respiration and the chemical processes on which it is based.

7. The Mitochondrion and How The Cell Burns Hydrogen: Takes a closer look at the respiratory chain, its role in the uptake of exygen, the production of ATP, and the removal and transfer of hydrogen from the respiratory substrates.

8. ATP, The Cell's Energy Currency: Considers in greater detail the nature of ATP and the precise way in which it functions as an energy transfer substance.

9. Photosynthesis, Energy From The Sun: Is a general description of the mechanisms involved in photosynthesis, looked at from the cellular and molecular point of view.

10. Mitosis, The Reproduction of Cells: Is designed to give a general picture of cell division and its significance.

11. DNA, The Self-Duplicating Molecule: Deals with the structure of DNA, particularly from the point of view of how we have found out what the structure is and how this unique structure permits the DNA molecule to replicate itself.

12. Enzymes and Digestion: Deals with digestion, the problem of releasing the nutrient materials from foodstuffs and absorbing these into the body. Because enzyme action is so important to digestion, opportunity is taken to introduce some basic principles concerning enzymes and their action, using the digestive enzymes as examples.

13. The Locomotory System: Discusses the question of how movement is effected by mammals.

14. Nerves and Nerve Impulses: Deals with the question of nervous control. It concentrates on the nature of the nerve itself and of the impulse that passes along it.

15. Chemical Control: Attempts to establish some of the basic principles involved in chemical control of the animal body.

16. The Movement of Water in Plants: Attempts to answer such questions as: How is water absorbed into a plant, what forces are responsible for lifting it through the tremendous heights encountered in some trees, why is the water needed in such large amounts?

17. Biology of a Flower: Describes the events upon which the reproduction of the seed-producing plants is based, as they occur, on the cellular level, in various parts of the flower.

18. Sexual Reproduction: Deals with the significance of sexual reproduction in promoting variation and describes the processes of meiotic cell division and syngamy of fertilization that must accompany it.

19. Transmission of Genes: To understand the laws governing the transmission of inherited characteristics from one generation to the next has been one of the major problems of biology. The object of program nineteen is to describe the first steps that were made towards an understanding of this problem. The topic is approached historically by showing how the Mendelian Laws of Inheritance can be derived from cross-breeding experiments and how these in turn lead to the chromosome theory of inheritance.

20. The Mechanism of Gene Action: To understand something of how genes are transmitted from one generation to the next explains nothing of the nature of the gene or of how it manages to mould the growth of the organism in some particular direction. Program twenty is concerned with these questions, the nature of the gene and how it expresses itself.

21. Populations, Communities and Succession: Introduces us to the concepts of population and community and considers the way in which communities gradually alter through the process of ecological succession.

22. Ecosystems and Energy Flow: Deals with the physical and biological principles that arise in connection with the food of energy through a natural community.

23. Population Densities: Is a general introduction to the principles underlying the growth and limitation of populations.

24. The Evidence for Evolution: Presents the classical evidence for the fact of evolution.

25. Mutation, Variation and Selection: Explains the theory of natural selection and shows how inherited variation, the raw material upon which selection acts, is produced.

26. Specification: Attempts to show some of the ways by which new kinds of living things are produced.